

GAD Prescribed Natural Fire¹ Complexity

Complexity ranking was not incorporated into the DI-1202 until December 1994. As a result, the FIREPRO analysis will not be able to pull these complexities directly from the reports in SACS until the FY2005 budget call. Until that time it will be necessary for the park to go back to the original fire reports on file and make after-the-fact judgement calls in responding to the information needs of this program

Parks having any wildland fires managed for resource benefits (previously known as prescribed natural fires/PNF's) in their DI-1202 fire report database should check this program during each annual budget call to see if fires are listed that need complexity ratings assigned. If there are no fires of this kind (Fire Type 49) in your Shared Applications Computer System (SACS) fire report database for the past 10 years (not including the calendar year), there will be no information transferred to this menu area and you can skip it. However, if you fail to input complexity ratings for listed fires, this will adversely impact your park's FIREPRO analysis for the current budget call.

FIRE NBR	FIRE NAME	DATE START	DATE END	AGENCY ACRES	FUEL MODL	ESC	ESCAPE RISK	VALUE RISK	FUELS BEHAVE	DUR- ATION	AIR QUAL

FISCAL YEAR: Enter the four-digit fiscal year you wish to work with (e.g., 2000, 2001, etc). If you're updating the information for the FY2000 budget call you must put in 2000.

This is a critical point to remember. Don't make the mistake of entering the current calendar, or fiscal year you're in if it is different from the budget call fiscal year. Input the fiscal year appropriate to the budget call.

UNIT: Enter the 4-letter alpha code for the NPS unit.

¹ Possibly one of the first things that comes to mind when reading this title is ... "Why don't those people in Boise get in tune with the new terminology and quit referring to the obsolete references to 'PNF'?" In regard to this user's guide, at least, we hesitate to change over to new terminology until that has been accomplished in the DI-1202 form and instructions, and on the screens in SACS. Hopefully all can be updated at the same time to avoid creating anymore confusion than that which already exists. Your patience and tolerance is appreciated.

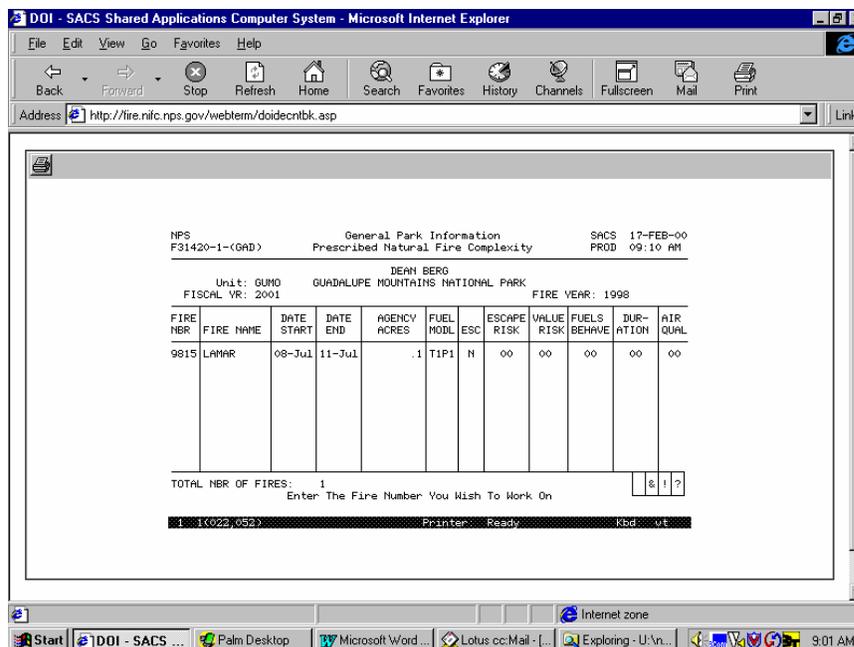
If you don't know the alpha code, input a "?" symbol, followed by pressing the <ENTER> key, and the program will display a help screen. The help screen will request input of the agency designator – input "NPS" and press the <ENTER> key. The help screen will then display a listing of NPS units and the appropriate alpha codes.

There are built in access limitations:

- Parks are limited to accessing their own alpha code, which is automatically loaded in this field as a result of how you were identified as a user when you logged into the SACS network.
- Regions, and Area FMO's can get into any of the parks within their SACS recognized service area as well as their own unit. If you can't gain access to the park you're inputting, that is because you don't have access authority and you will need to contact the Fire Management Program Center in Boise (208-387-5216) for assistance.

FIRE YEAR: This field is filled automatically by the program with the calculated "*normal fire year*", as appropriate.

- If there is adequate DI-1202 fire report data available in SACS, the program will determine and insert the normal fire year in this field for fire type 49.
- Normal fire year is the year with the third highest number of acres burned for this type, over a 10-year period of time. The program only looks at full years of data, so a FY2000 analysis will look at 1990 through 1999.
- If your 10-year fire database doesn't have at least three years of type 49 fire data, the program will not calculate a normal fire year.
- If the program calculates and inserts a normal fire year date in this field it will also list coinciding type 49 fires in the table on the screen, providing the following information for each fire based on type 49 fire report information in SACS:
 - Fire number (**FIRE NBR**)
 - Fire name
 - Date started
 - Date ended
 - Agency acres
 - Fuel model
 - Converted to wildfire due to escape? (**ESC**)



In the example screen above, the program has loaded one type 49 fire based on the park's normal fire

year (1998) for the **FY2000** budget call. Zeros (00) in the five complexity data columns in the right side of the table indicate that the park needs to assign complexity ratings to this fire. If the fires that show up on your list already have complexity scores entered that is because this is the same normal fire year that showed up for a previous fiscal year budget call and the data was input at that time. Nothing more would need to be done with these scores unless you decide to make corrections/adjustments.

The program will indicate how many fires are in the listing (**TOTAL NBR OF FIRES:**) as indicated in the lower left-hand corner of the screen. Each screen display can only handle 10 fires. Press the <ENTER> key to view successive screens displaying any additional listings beyond the first 10 fires.

The program will prompt “**ENTER THE FIRE NUMBER YOU WISH TO WORK ON**”. Enter the fire number as it shows on the screen and the press the <ENTER> key to access that fire’s complexity fields for input.

For each complexity attribute, users assign a complexity score of 0,1,3,5,7,9. Even numbers or numbers greater than nine are not permitted. The scoring criteria described for each numeric score are intended to be guidelines for choosing the appropriate score. If a specific fire does not match precisely the stated criteria in every respect, a park will have to use its best judgment to determine which score is most appropriate. A fire does not have to meet all listed scoring criteria for a particular numeric score to qualify for that score. Each higher scoring category includes all the scoring criteria listed for previous categories.

ESCAPE RISK: Input the appropriate **potential for escape** score based on the following guidance and criteria. The program will accept your input after you press the <ENTER> key.

<u>Numeric Score</u>	<u>Scoring Criteria</u>
0	No potential for prescribed fire escape.
1	Potential of 1 or 2 spot fires totaling no more than 0.25 acre outside the burn unit perimeter. Spots are expected to be controlled utilizing only normal holding forces on the burn.
3	Potential for multiple spot fires totaling less than 1 acre, but still controllable utilizing only average number and type of holding forces on the burn unit. One or two dangerous fuel concentrations exist near burn unit perimeter and are expected to result in limited torching and spotting potential.
5	Potential for multiple spot fires totaling more than 1 acre, requiring greater than average holding capability along certain sections of burn perimeter. More than two dangerous fuel concentrations exist near burn unit perimeter and are expected to result in significant torching and spotting potential.
7	Limited potential for a fire escape that may exceed the capability of holding forces, requiring that the escape be declared a wildfire. Some fairly extensive heavy fuel areas exist along the burn unit perimeter and fuel ladders may be present, making a holding action difficult. Prescription calls for fireline intensity and fuel moistures in the primary fuel model that may cause some spotting. Probability of ignition greater than 70 percent.
9	Good potential for multiple fire escapes, some of which may exceed the

capability of holding forces, requiring that escapes be declared wildfires. Extensive concentrations of heavy fuels exist along the burn unit perimeter and fuel ladders are present, making holding actions difficult. Prescription calls for fireline intensity and fuel moisture in the primary fuel model that are known to cause serious spotting potential. Probability of ignition greater than 85 percent. Wind speeds at the upper end of prescription.

VALUE RISK: Input the appropriate **values at risk** score based on the following guidance and criteria. The program will accept your input after you press the <ENTER> key.

<u>Numeric Score</u>	<u>Scoring Criteria</u>
0	No risk to people, property, cultural and natural resources either inside the designated burn unit or in the event of fire escape.
1	Burn is in an area infrequently visited by people, and contains no structures or natural or cultural resources that could be damaged by prescribed fire. Or. .the area adjacent to the burn unit also may contain a few locally significant natural or cultural resources or structures that could be damaged by fire escapes.
3	Burn is in an area occasionally visited by people, and may be adjacent to a primary park road. The unit contains a few minor structures and there are some natural and cultural resources of local significance inside the burn unit that must be protected from fire. Or. .the area adjacent to the burn unit contains several secondary natural or cultural resources, or structures that could be threatened by fire escapes.
5	Burn is in an area that receives moderate use. Public safety is a major concern address in the burn unit plan, but still requires a minor commitment of project resources. The unit may contain several significant structures and there may be one or two primary natural or cultural resources (as identified in resource management plans) inside the burn unit that must be protected from fire. Or. .the area adjacent to the burn unit contains one or two primary natural or cultural resources, or structures valued between \$100,000 and \$500,000 that could be threatened by fire escapes.
7	Burn is in an area that receives moderate use, and protecting public safety requires a moderate commitment of project resource. The unit may contain several significant structures (such as a developed campground) and there may be three or more primary natural or cultural resources (as identified in resource management plans) inside the burn unit that must be protected from fire. OR. .the area adjacent to the burn unit contains three or more primary natural or cultural resources, or a minor develop site with structures valued between \$500,000 and \$1,000,000 that could be threatened by fire escapes.
9	The burn unit is in an area of concentrated public use, and protecting public safety requires a major commitment of project resources. The unit may contain several major structures (such as residences) and there may be critical natural or cultural resources (such as threatened or endangered species or historic buildings or major archeological artifacts) inside the burn unit that must be protected from fire. OR. .the area adjacent to the burn unit contains critical natural or cultural resources or

major developed sites with structures valued at more than \$1,000,000 that could be threatened by fire escapes.

FUELS BEHAVIOR: Input the appropriate **fuels/fire behavior** score based on the following guidance and criteria. The program will accept your input after you press the <ENTER> key.

<u>Numeric Score</u>	<u>Scoring Criteria</u>
1	Fuels are uniform and fire behavior is easily predicted using the standard fire behavior models and prediction systems. Terrain is mostly flat or the slope uniform.
3	Fuels within the primary model vary somewhat in loadings and arrangement, but are still well represented by one of the standard fire behavior fuel models. There may be small areas of secondary fuel models present, mostly away from the burn unit perimeter. The terrain contains low relief, and slope and aspect cause minor variations in fire behavior. The fire behavior variations present no difficulties in carrying out the burn, and the predominant fire behavior still can be predicted easily under most prescription conditions.
5	Considerable variation exists within the primary fuel complex. Prescriptions may be based on two fuel models, or may require a customized model in addition to or in place of a standard model. A few areas of unusual fuel concentrations or atypical fuels not well represented by the prescription-based models may exist on or near the burn unit perimeter. The terrain contains significant relief, but the variations present only minor control problems and no problems in meeting burn unit objectives. Fire behavior can still be predicted using standard fire behavior prediction systems.
7	Major variation in the fuel complex require two or more fuel models, and may require several customized models. High fuel concentrations and atypical fuels not well represented by the prescription-based models may be common on or near the burn unit perimeter. The terrain encompasses two or three major vegetative communities through a broad elevational gradient. Variations in slope and aspect have major effects on fuels, fire weather, and fuel moisture. The resulting variations in fire behavior may present moderate fire control problems and minor problems in meeting the overall burn unit objective. Fire behavior cannot be predicted well using standard fire behavior prediction systems without the application of adjustment factors.
9	The burn unit contains highly variable fuels throughout, making it difficult to utilize standard or customized fuel models. The terrain encompasses more than three major vegetative communities through an elevational gradient so broad that more than one climate zone may be present. Wide variations in slope, aspect, and elevation have major effects on fuels, fire weather, and fuel moisture. The resulting variations in fire behavior may present major fire control problems and moderate problems in meeting overall burn unit objectives. Fire behavior cannot be predicted well without the aid of local experts.

DURATION: Input the appropriate **fire duration** score based on the following guidance and criteria. The program will accept your input after you press the <ENTER> key.

<u>Numeric Score</u>	<u>Scoring Criteria</u>
1	Entire burn unit will be burned in one burning period. Some minor residual burning may continue inside the unit, but requires no continued resource commitment.
3	Complete burnout of burn unit requires between one and three days. Some minor residual burning may continue inside the unit, but requires no continued resource commitment.
5	Complete burnout of burn unit requires three to seven days. Significant residual burning may continue for up to another week along short sections of burn unit perimeter, requiring small holding crew.
7	Complete burnout of burn unit requires between one and three weeks. Significant residual burning may continue for up to another two weeks along with up to half of the burn unit perimeter, requiring a full holding crew.
9	Complete burnout of burn unit requires more than three weeks. Significant residual burning may continue for up to another three weeks along most of the burn unit perimeter, requiring at least one full holding crew.

AIR QUALITY: Input the appropriate **air quality** score based on the following guidance and criteria. The program will accept your input after you press the <ENTER> key.

<u>Numeric Score</u>	<u>Scoring Criteria</u>
1	Burning is remote from developments or visitor use areas or is of such small size that smoke impacts are insignificant. No critical targets are present. Critical targets are areas that are unusually sensitive to some impacts. These include areas such as airports and hospitals in which health and safety are quickly and severely impacted by even minimal amounts of smoke, targets that already have an air pollution or visibility problem, and any targets where the impact of smoke will be compounded by the presence of sulfur dioxide emissions from other sources.
3	One or more minor developments or visitor use areas may experience noticeably impaired visibility and increased particulate concentrations, but not in excess of secondary federal standards. The impairment is expected to last not more than three days. No critical targets are present.
5	Several minor developments or visitor use areas may experience significantly impaired visibility (as defined in a state, county, or park visibility standard) or particulate concentrations exceeding secondary federal standards. The impairment is expected to last not more than one week. Not more than one health-related complaint is likely to be received from health or medical authorities. No critical targets are present.

- 7 One town (more than 20,000 people) or one major visitor use area may experience significantly impaired visibility (as defined in a state, county, or park visibility standard) or particulate concentrations exceeding secondary federal standards. The impairment is expected to last not more than two weeks. One to three health-related complaints are likely to be received from health or medical authorities. One to three critical targets are present.

- 9 Several towns (each of 20,000 people or more) or several major visitor use areas may experience significantly impaired visibility (as defined in a state, county, or park visibility standard) or particulate concentrations exceeding secondary federal standards. The impairment is expected to last more than two weeks. More than three health-related complaints are likely to be received from health or medical authorities. More than three critical targets are present. Any impact likely to result in a violation of a primary federal air quality standard would also qualify.

Each time you finish inputting scores for a fire, the program will prompt “***ENTER THE FIRE NUMBER YOU WISH TO WORK ON***”. Enter the fire number as it shows on the screen and the press the <ENTER> key to access that fire’s complexity fields for input. To leave this program simply press the <ENTER> key and the program will take you back out to the menus.